PROCEEDINGS

OF THE

BIOLOGICAL SOCIETY OF WASHINGTON

LIST OF MAMMALS OF THE DISTRICT OF COLUMBIA.

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Useful lists of the plants and birds of the District of Columbia have long since been published, but no list of the mammals of the District has as yet appeared. Some species are known to have become locally extinct, and it is probable that others, of which we have no record, have vanished since the settlement of the country. The present list, imperfect as it is, may serve as a nucleus around which to gather additional data, and may prove useful as a guide in determining the changes that are constantly taking place in the relative abundance of species. Corrections and additional notes, with as exact data as possible, are requested.

To limit the list to species occurring within the present boundary of the District would throw out some that a few years ago were common where the city of Washington now stands; but by following the botanists and ornithologists in the use of a circular area with a radius of 20 miles and the Capitol as a center, all of the local species may be included. Probably this circle could be narrowed to half its diameter without leaving out a species.

In preparing this list my own observations have been supplemented by field-notes kindly placed at my disposal by several mammalogists who have done more or less field-work in the vicinity of Washington, mainly during the past 10 years. Each note is referred in the text to its proper authority; but I wish to express my thanks to Mr. Morris M. Green, Dr. C. Hart Merriam, Dr. A. K. Fisher, and Mr. E. A. Preble for assistance. During the years 1888 and 1889 Mr. Green collected 18 species

of mammals within a mile or two of the city. I do not know of a larger list of species taken in the District by one person.

As my own acquaintance with the bats of the District has been limited to early spring and late fall, most of the notes on this group are borrowed. Through the kindness of Mr. F. W. True I am able to include 2 species of bats from National Museum specimens collected in the prescribed area.

In regard to the larger mammals known to have once inhabited the region, but at present locally extinct, much valuable data is available; but for the present paper a brief list of extinct species will suffice. The following 7 species have disappeared from the region since the coming of white men: Ursus americanus, Canis nubilis, Felis concolor, Castor canadensis, Cervus canadensis, Bison bison, Mus rattus. The last-named species was introduced and then disappeared before its rival, Mus decumanus.

The following 38 species are known to occur at the present time within 20 miles from the Capitol and most of them within the District limits:

Didelphis virginianus. Opossums are common in the woods around Washington, where their tracks may be seen on the banks of every creek and pond. The stupid animals even wander into the city. In the spring of 1894 I found one sleeping on the branch of a tree near Connecticut Ayenue, on the hill east of Rock Creek.

Sciuropterus volans. Flying Squirrels have been found in the woods on all sides of the city. Though strictly nocturnal and rarely seen, except when driven from their nests in hollow trees or caught in traps set over night on logs or stumps in the woods, they are not rare. In 1888 and 1889 Mr. Green found several pairs living in woodpecker holes in the trees along Rock Creek and others in the woods near the Soldiers' Home and along the Eastern Branch. Mr. Preble found them rather common at Mt. Vernon, where he secured 8 specimens one day by pounding on hol low trees and shooting the squirrels as they ran out of the holes. One was caught in a trap I had set for wood rats near the west end of Chain Bridge. But for the numerous cats that run wild in the woods, and to which flying squirrels fall an easy prey, these soft-furred, big-eyed, gentle little beauties would be much more common.

Sciurus hudsonicus. Red Squirrels are frequently seen among the trees in the Zoölogical Park, where they show their appreciation of the protection there offered by becoming unusually tame and unsuspicious. They cross Rock Creek and follow the trees to the top of the hill above High Bridge. In Woodley Park they are less frequently seen; in fact, the only one I saw there during the past winter had been shot and then shaken by a dog and left lying in the path with his bright winter coat torn and soiled. On the west side of the Potomac red squirrels live along the steep, wooded bluffs, but are so shy that lately while running a line

of traps among the rocks I did not see a live one. A few low *chr-r-r-r-s* were heard, chestnut shells were found on logs and rocks, and one unfortunate squirrel got his neck in a trap I had set under the rocks for a *Neotoma*. Mr. Preble tells me they are common at Marshall Hall, and I have several times heard them in the swamps near Hyattsville.

Sciurus carolinensis. Gray Squirrels range up to the edge of the city wherever there is timber, and sometimes wander into the city parks. Mr. Preble saw one in the Smithsonian grounds in 1894. I have seen them back of Mt. Pleasant and on the east side of Rock Creek, just above Connecticut Avenue bridge. They are not uncommon throughout the extensive forest area of the Zoölogical, Rock Creek, and Woodley parks. In the grounds of the Soldiers' Home they are abundant and unusually tame. They are common at Mt. Vernon and Marshall Hall and along the Virginia side of the Potomac above Georgetown, but except in the parks where protected from hunters they are exceedingly shy and rarely seen. The extensive areas of native forest, with old hollow walnut, butternut, hickory, chestnut, beech, and oak trees, offer a paradise of safe retreats and abundant food for squirrels, and as long as these forest areas remain, so will the furry-coats.

Sciurus cinereus. Fox Squirrels are not common in the immediate vicinity of Washington, but many are shipped to Center Market from points in Virginia 30 or 40 miles west of the city, and in Dr. Merriam's collection are several specimens from Laurel, Md.

Tamias striatus. Chipmunks are scarce in the immediate vicinity of the city, probably owing to the cats, dogs, and boys. I have seen a few in the Zoölogical Park and the Soldiers' Home grounds, and lately caught one and heard others on the west side of the Potomac, above Chain Bridge. Mr. Preble has found them rather common at Mt. Vernon. Dr. Fisher reports them from Munson Hill and Arlington, Va.; Sligo, Piney Branch, Silver Springs, and Sandy Springs, Md.

Arctomys monax. Woodchucks are still common on both sides of the Potomac River above Chain Bridge and on High Island and the little island just above, to which Dr. Merriam has given the appropriate name 'Woodchuck Island.' Six or seven years ago Dr. Fisher found them a couple of miles lower down on the cliffs on the west side of the river below Chain Bridge and on the flats on the east side between the river and canal. I have lately taken several on High Island and on the west side of the river opposite. Most of the burrows are located among rocks on the islands and on the steep slopes and cliffs of the river hills. On High Island there are several old breeding dens, regular strongholds, between and under the rocks. Woodchucks are said to be more common farther up the river, and I was told of a place where one lives near the east end of Chain Bridge.

Mus musculus. House Mice are numerous throughout the city and about buildings in the surrounding country. Some have taken up their residence in the woods and fields and along old fences and stone walls.

I have frequently caught them along Rock Creek in traps set for white-footed mice, and Mr. Preble has caught a number on the Potomac flats below the city. That they are common outside of buildings is further proved by the presence of their skulls in owl pellets. In 675 pellets of barn owls taken in the Smithsonian tower Dr. Fisher found 452 skulls of Mus musculus.*

Mus decumanus. The common Brown Rats are numerous in the city and in the scattered buildings of the surrounding country. They show less inclination to take to the woods than do the house mice, M. musculus. I have not found them at any considerable distance from buildings, but in the previously mentioned 675 pellets of barn owls taken from the Smithsonian tower were 134 skulls of this species.*

Peromyscus leucopus. The White-footed Mice are common throughout the woods in every part of the District. They are abundant along Rock Creek near the Massachusetts Avenue and Connecticut Avenue bridges, and on the west side of the Potomac and east side of Anacostia River. I caught one in a trap at a hole in a stone wall near Rock Creek, and the next night caught a house mouse at the same hole. I have also taken them at the same holes where Blarina brevicauda, Microtus pennsylvanicus, and M. pinetorum were caught on the preceding or following nights, and many of my specimens have been eaten in the traps by blarinas that visited the traps before me.

Neotoma pennsylvanica. Wood Rats are fairly common among the rocks on the west side of the Potomac River a mile above Chain Bridge, and it is probable that they occur all along the river cliffs up to the Blue Ridge. No doubt they extend down to the end of the rocky bluff opposite Georgetown, or did before extensive quarrying disturbed their homes. They are rock-dwellers, and will probably not be found near the District away from the river cliffs. None have been taken on the east side of the Potomac.

Fiber zibethicus. Muskrats are common in all suitable localities near Washington. They are especially numerous along Rock Creek, where they have increased rapidly since receiving the protection of the Zoölogical Park. In favorite places the creek banks are perforated with their burrows, plants cut for food are strewn along the shores, and the animals may be seen swimming about in broad daylight. It will be interesting to see how far this increase will go and by what circumstances it will be limited. On the big marsh extending along both sides of Anacostia River muskrat houses are common, and a few may be seen in the ponds and marshes on the west side of the Potomac. Tracks and burrows are common along Beaver Dam Branch, on the east side of Anacostia River, and still more common along the arm of the Potomac that flows around the east side of High Island. Large numbers of skins are brought to market by negro trappers from lower down the river.

^{*}Science, N. S., III, p. 623, April 24, 1896.

Microtus pennsylvanicus. Meadow Mice are probably the most abundant mammals of the District. They press into the edge of the city on all sides and even into the parks and grassy vacant lots. Several have been caught in the Department of Agriculture grounds. Mr. Preble has caught a large number on the Potomac flats, and I have myself taken fully 100 close to the edges of the city. They are numerous along the Rock Creek flats from Massachusetts Avenue bridge up through the Zoölogical Park and fairly swarm along the Potomac and Anacostia marshes. They also range to the tops of the highest hills wherever a heavy growth of grass furnishes a good supply of food and sufficient cover for their runways. A few are found in the woods, especially along the edges of creeks, but open country, marshes, and grassy bottom lands are their favorite haunts.

Microtus pinetorum. Pine Mice are common, but less so and less frequently taken than the meadow mice, which often occupy the same ground. The generalization may be made (but it will not always hold) that the meadow mice live in the fields, meadows, and open country. while the pine mice live in the woods and brush. The pine mice are frequently caught in old fields and on open bottom land, but are found in greatest abundance in brushy bottoms along creek flats. The narrow flats along Rock Creek in the lower part of the Zoölogical Park are thickly marked with their ridges and the little round holes that lead into the burrows. Most of the traps that I set on this flat for moles caught only pine mice, a large number of which were also caught in traps set along the little creek in Woodley Park. A few were caught along Piney Branch and Broad Branch, and one near Fort Marcy, on the west side of the Potomac. Mr. Green caught them on the flats between the canal and Potomac, about a mile above Georgetown, and on a wooded knoll a quarter of a mile below the west end of Long Bridge.

Synaptomys cooperi. Cooper's Lemming-mouse. In 1888 Dr. Fisher examined some pellets of long-eared owls from Munson Hill, Virginia, and among 176 small mammal skulls in these pellets were 3 skulls of Synaptomys. Another skull was found in the stomach of a red-tailed hawk killed at Sandy Springs, Maryland, March 24, 1890.* It was, of course, impossible to know the exact localities where the hawks and owls procured these rare specimens. In February, 1896, I caught 4 Synaptomys in a sphagnum swamp near Hyattsville, 5 miles northeast of the Capitol, where their nests and runways are common in the damp, cool sphagnum. No doubt more careful trapping would have resulted in a greater number of specimens. As the animals have been so long suspected and so thoroughly trapped for in various places about the District, it is reasonable to infer that they are restricted to these cold swamps.

Zapus hudsonius. Jumping Mice have been taken on the west side of the Potomac close to the city. Morris M. Green caught several at a point a quarter of a mile below the west end of Long Bridge and about

^{*}A. K. Fisher: Hawks and Owls of the United States. Bulletin 3, Div. of Ornithology and Mammalogy, 1893, pp. 59 and 141.

50 yards from the river. He writes me that they were found in brush heaps and beds of weeds and were caught in his hands in the daytime. Dr. Merriam caught one in 1886 at a point a short distance up the river from the west end of Aqueduct Bridge. Mr. Miller saw one near Forest Glen, Md., on May 10, 1896.

Lepus sylvaticus. The Cotton-tail Rabbit is the principal game mammal of the District and vicinity, and, in spite of the abundance of hunters and dogs, they are still fairly common. I have frequently seen them on both sides of Rock Creek near the Connecticut Avenue bridge and in the Rock Creek Park near Broad Branch. Every fresh snow shows a lot of rabbit tracks among the spruces in the Department of Agriculture grounds, and the rabbits are frequently seen running from bush to bush. They are common in the tall grass and among the brush on the river hills along the west side of the Potomac, where the rough country and rocks offer the best of protection. Part of the immense number of these rabbits exhibited for sale in the markets during fall and winter months are shipped in from beyond the 20-mile circle, but many are taken within a few miles of Washington. A negro hunter is frequently met coming in from the country with an old shotgun and a back-load of rabbits; but when questioned he usually avoids telling where his game was procured. Last February I watched a negro trapper from Westmoreland county, Virginia, selling his stock of furs to a dealer in Center Market, and among other skins 130 rabbits were sold at 1 cent each.

Felis domesticus. I am sorry to have to include the House Cat as an introduced species, but it seems thoroughly naturalized and of too great importance to be omitted. Its tracks are common in dusty wood paths and on every fresh snow in the wildest parts of the surrounding country.

Lynx rufus. Wildcats still inhabit the Blue Ridge Mountains, and it would be strange if they did not sometimes follow down the river cliffs on the west side of the Potomac to near the city. There is much wild country within a few miles of Washington where they could find plenty of small game and be fairly safe from enemies. Dr. Fisher caught one in October, 1895, at Lake Drummond, Virginia, where he reports them as very common.

Vulpes pennsylvanicus. The Red Fox is now fairly common in the country around Washington, though a century ago it was not known here. Dr. Fisher gives me the following interesting note: "Through the kindness of H. H. Miller we learn that the red fox first appeared in Montgomery County, Maryland, between the years 1798 and 1802. He obtained the facts from Mr. George E. Brooke, a gentleman of 80 years of age, who, like his father and grandfather, was an enthusiastic fox-hunter."

D. B. Warden, in writing of the District of Columbia in 1816, says: "The gray and red fox frequent this region, and sometimes carry off pigs, lambs, and poultry." *

Urocyon cinereoargenteus. Gray Fox. This species is still found in the vicinity of Washington, though not in abundance.

^{*} Chorographical and Statistical Description of the District of Columbia, p. 159, Paris, 1816.

Procyon lotor. The Raccoon is not rare, even in the immediate vicinity of Washington. I have seen their tracks along Rock Creek in the lower end of the Zoölogical Park, on the bank of the Potomac near High Island, and along Beaver Dam Branch on the east side of Anacostia River. Skins are brought into the market by negro trappers from across the Potomac.

Mephitis mephitica. Skunk. In 1894 a skunk was found under a house in the middle of Georgetown. It was treated with carbon bisulphide, and its skin is now in the Department of Agriculture collection in the National Museum. They are fairly common along the Potomac River above Georgetown, where their tracks may be found in the dusty road along the canal almost every morning, and I have found both tracks and holes on the west side of the Potomac, above Chain Bridge. Tracks are less frequently seen in other localities near the city, and occasionally an unmistakable skunky odor blows into town.

Lutra hudsonica. Otters are scarce, but probably less so than is generally supposed. Dr. Coues mentions one brought into the National Museum in the flesh in 1874.* A man living near High Island tells me that an otter has been on the island during the past winter, and that one was caught near Great Falls. I cannot vouch for the truth of these reports, but see no reason to doubt them. The rapids of the Potomac and the rocky shores, with numerous drift-heaps and overhanging banks, offer the favorite environment for otter.

Lutreola vison. Mink are common along the Potomac, along Rock Creek, Anacostia River, Beaver Dam Branch, and probably on every small stream in the District. I have seen their tracks in all of the places mentioned, and the freshly killed animals have been brought to the Department of Agriculture from several points near Washington. One was brought in last February from College Station, Maryland, 8 miles northeast of the city.

Putorius noveboracensis. Weasels, while not plentiful, are by no means rare. Tracks are occasionally seen on the banks of streams. The National Museum contains a number of skins labeled Washington, and in the Department of Agriculture collection are two skins of weasels caught near the city. One of these I caught in April, 1896, a short distance above the west end of Chain Bridge. The spot was close to the old District line, but I could not tell on which side. Mr. C. W. Richmond tells me that a small weasel was caught a few years ago near the Central High School.

Sorex personatus. This tiny Long-tailed Shrew is one of the rarest mammals of the region. It has not yet been taken within the District of Columbia, though no doubt it occurs in very limited numbers in some of the swamps. In the mammal collection of Dr. Merriam there is a muchdamaged specimen, picked up in a path near Sandy Springs, Maryland, some years ago. During February of the present year (1896) I succeeded in catching three of these shrews in a sphagnum swamp near Hyattsville,

^{*} Fur-bearing Animals, p. 311, 1877.

5 miles northeast of the Capitol, but even in this semi-boreal swamp they seem to be scarce and are difficult to secure. Thorough and unsuccessful trapping for them in various localities about Washington proves to my own satisfaction that they do not inhabit the uplands.

Blarina brevicauda. Next to the meadow mouse, the Short-tailed Shrews are probably the most abundant mammals in the District of Columbia. They may be found anywhere in woods and brush and old fields and along creek banks and ditches. Under the cover of fallen leaves and grass and in burrows and covered runways they work their way safely into the very edges of the city. I have taken at least a hundred from traps set for more desirable species along the east side of Rock Creek near the Connecticut Avenue bridge and on the west side near the Massachusetts Avenue bridge, besides others along Piney Branch, Broad Branch, above Georgetown on the west side of the Potomac, and on the east side of Anacostia River near the mouth of Beaver Dam Branch and near Bladensburg. Other mammal collectors have had the same experience of catching more of these shrews than were wanted.

Blarina parva. The Little Short-tailed Shrew is common at Sandy Springs, Maryland, from which point Dr. Merriam has a large series of specimens, but there is not to my knowledge any record of specimens that have been taken nearer Washington. My own traps have not been set in the right kind of localities for this shrew, and probably for the same reason other trappers have not caught it. No doubt it will yet be found common within the limits of the District. Dr. Fisher took 21 skulls from pellets of barn owls found in the Smithsonian tower.

Scalops aquaticus. Moles are common about Washington, and sometimes their ridges are seen on unpaved ground in the city. The only visible sign of their presence is a little ridge pushed up along the surface of the ground and often extended in an interminable network. These ridges, however, are not always a sure sign of the presence of moles, for the pine mouse either makes similar ridges or occupies those abandoned by the moles, but enough moles have been caught in the near vicinity of the city to establish the fact that they are common. Morris M. Green caught them along Rock Creek and the Potomac; E. A. Preble caught one at Arlington; G. S. Miller, Jr., secured one at Forest Glen, Md., and Dr. Mearns tells me that half a dozen specimens have been brought to him at Fort Myer, Va.

Condylura cristata. Star-nosed Moles are either very rare or else their peculiar underground mode of life keeps them well out of the hands of collectors. The only record for the District of which I am aware is that of a family of five young found by Morris M. Green in a nest under an old log on the flats between the canal and river about a mile above Georgetown. As the animal has a general boreal range, it might be expected to occur in the vicinity of cold swamps. I have no doubt that thorough trapping may prove them to be common in certain localities.

Vesperugo georgianus. Morris M. Green, Dr. Fisher, and Dr. Merriam agree that this is the commonest bat in and around Washington.

In June and July of 1888 Mr. Green shot a large number of bats of this species in Rock Creek valley on the present site of the Zoo. In Dr. Merriam's collection are 16 specimens, taken May 14, 1887, under the roof of a barn near the Soldiers' Home, and also a nursing female, shot July 3, 1888.

Vesperugo fuscus. Brown Bat. This is the common large bat seen on summer evenings flying about the streets of Washington. It frequently enters houses through open windows. Specimens have been secured as early as March 8 and as late as December 25.

Vespertilio lucifugus. This is one of the common bats of the city. Mr. Green and Mr. Richmond have captured large numbers of them in the crevices between the timbers under Long Bridge. In Dr. Merriam's collection are 10 adults and 15 young taken June 16, 1889, and a nursing female taken July 3, 1888. Three specimens in the National Museum were collected in May, June, and August.

Vespertilio subulatus. Mr. Gerrit S. Miller, Jr., killed one of these bats at Forest Glen, Maryland, only 8 miles from Washington, May 10, 1896, and found another dead on May 26, 1896. In the National Museum there is one specimen collected at Alexandria, Va., in August, 1875, by P. L. Jouy. These dates may indicate that the bat is a summer resident, but if the species were not rare more specimens would certainly have found their way into collections.

Atalapha borealis. Dr. Fisher considers this next to Vesperugo georgianus, the commonest bat in the city. Mr. Green reports it as common in the country and in the city streets, and says he has seen it flying about in November. I have examined Washington specimens collected in May, June, September, and November. In the collection of Dr. Merriam there is a female taken June 22, 1889, with two young clinging to her.

Atalapha cinerea. Hoary Bat. A single skin in the National Museum collected at Laurel, Maryland, brings the species within the 20-mile circle. This specimen was taken October 2, 1892, and was probably a migrant. Other records from Baltimore, Maryland, New Jersey, South Carolina, Massachusetts, and Pennsylvania bring the range of the species on all sides of Washington.

Lasionycteris noctivagans. Dr. Fisher shot one of these bats November 12, 1885, between Arlington and Rosslyn, Va. In the National Museum collection are two skins, one labeled Washington, D. C., January, 1893, the other Smith Island, Va., September 3, 1893. These dates indicate that the species is a migrant or winter visitor.